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10/601,654	06/24/2003	Masaya Tamaru	0649-0895P	1294

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BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER	
DANIELS, ANTHONY J	
ART UNIT	PAPER NUMBER
2622	

NOTIFICATION DATE	DELIVERY MODE
06/17/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/601,654	TAMARU ET AL.	
	Examiner	Art Unit	
	ANTHONY J. DANIELS	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 March 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) *9-17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5,6 and 18-29* is/are rejected.

7)☐ Claim(s) *3,4,7 and 8* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment, filed 3/5/2008, has been entered and made of record. Claims 1-8 and 18-29 are pending in the application.

Response to Arguments

1. Applicant's arguments regarding the Ogata reference and the claims 1 and 5 have been fully considered and are persuasive.

Specifically, Applicant argues that the preset factor "cE" in Ogata is not dependent upon a scene. In the embodiment cited by the examiner, the factor "cE" is set as a maximum value allowed as the compensation amount p (i, j) subtracted by the subtractor (Col. 16, Lines 6-8). The examiner agrees that this is not equivalent to being dependent upon a scene. The rejection under 102 in view of Ogata has been withdrawn.

2. Applicant's arguments regarding the Tintera reference and claims 18-20 and 23-25 have been fully considered but they are not persuasive.

Applicant argues, "…Applicants respectfully submit that Tintera does not multiply any image data by a total gain that depends upon a scene…" The examiner respectfully disagrees with this contention and submits that according to the sports mode of auto-mode, certain gains listed in a table (see Figure 3A and 3B). These gains are then applied to the image data in the gain setting circuit "26" in Figure 4A (Col. 5, Lines 27-29).

Applicant further argues, "...Tintera also fails to suggest or teach that scene classification is determined based upon data detected by sensors..." The examiner respectfully disagrees with this contention and submits that the data detected by the sensors is the scene and according to this scene, i.e. sports ort any other, the corresponding table will be utilized.

Claim Objections

3. Claims 26 and 27 are objected to because of the following informalities:

Both claims 26 and 27 are dependent upon claim 5, which is an apparatus claim. The preamble of both claims 26 and 27 recites a method.

Appropriate correction is required.

Miscellaneous Matters

Although claim 5 is labeled "Currently Amended", Paul Sewell, Applicant's representative, indicated during a phone conversation on 5/28/2008, that there is no amendment to the claim and the claim's status is "Previously Presented".

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1,2,5,6,22 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogata et al. (US # 7,202,892) in view of Wada (US # 5,446,504).

As to claim **1**, Ogata et al. teaches an image combination method comprising the steps of image-combining high output (Figure 11, long-time exposure image "xL"; Col. 10, Lines 7-16) and low output (Figure 11, short- time exposure image "xS"; Col. 10, Lines 7-16) image data to form combined image data (Figure 11, synthesized image "x"), and inputting the synthesized image to a dynamic range compressor (Figure 11, dynamic range compressor "14"). The claim differs from Ogata et al. in that it further requires the step of multiplying the combined image data by a total gain that depends on a scene.

In the same field of endeavor, Wada teaches an image signal processing apparatus comprising a dynamic range compressing circuit. Image signals, output from two separate image sensors, are combined and input to a series of circuits. One of which is a multiplier circuit that multiplies the combined image signals with a dynamic range coefficient (Figure 1; Col. 4, Line 30 – Col. 5, Line 19; *{The compression coefficient C is dependent upon the image signals RGB. The image signals are dependent upon the scene. Thus, the coefficient C (total gain) is dependent*

upon the scene.}). In light of the teaching of Wada, it would have been obvious to one of ordinary skill in the art to include the dynamic range compression circuit of Wada in the system of Ogata et al., because an artisan of ordinary skill in the art would recognize that this circuit would allow for a high quality color image to be obtained even when the dynamic range compression ratio is increased (see Wada, Col. 1, Lines 49-58).

As to claim **2**, Ogata et al., as modified by Wada, teaches an image combination according to claim 1, wherein the total gain is multiplied on the combined data of high output image data and the low output image data in a range that the high output image data exceeds a certain value (*It is inherent that the image data will exceed some value.*).

As to claim **5**, Ogata et al. teaches an image pickup apparatus comprising an image-combining means for image combining a high output (Figure 11, long-time exposure image "xL"; Col. 10, Lines 7-16) and low output (Figure 11, short- time exposure image "xS"; Col. 10, Lines 7-16) image data to form combined image data (Figure 11, synthesized image "x"); and a dynamic range compressor (Figure 11, dynamic range compressor "14"). The claim differs from Ogata et al. in that it further requires a multiplying means for multiplying the combined data of the high output image data and the low image output data by a total gain that depends upon the scene.

In the same field of endeavor, Wada teaches an image signal processing apparatus comprising a dynamic range compressing circuit. Image signals, output from two separate image sensors, are combined and input to a series of circuits. One of which is a multiplier circuit that multiplies the combined image signals with a dynamic range coefficient (Figure 1; Col. 4, Line 30 – Col. 5, Line 19; *{The compression coefficient C is dependent upon the image signals RGB.*

The image signals are dependent upon the scene. Thus, the coefficient C (total gain) is dependent upon the scene.}). In light of the teaching of Wada, it would have been obvious to one of ordinary skill in the art to include the dynamic range compression circuit of Wada in the system of Ogata et al., because an artisan of ordinary skill in the art would recognize that this circuit would allow for a high quality color image to be obtained even when the dynamic range compression ratio is increased (see Wada, Col. 1, Lines 49-58).

As to claim **6**, Ogata et al., as modified by Wada, teaches an image pickup apparatus according to claim 5, wherein the multiplying means multiplies the combined data of the high output image data and the low output image data by the total gain in a range that the high output image data exceeds a certain value (*It is inherent that the image data will exceed some value.*).

As to claim **22**, Ogata et al., as modified by Wada, teaches an image combination method according to claim 1, wherein the step of image-combining the high output image data and the low output image data is performed by a logarithmic addition method (see Ogata et al., Col. 15, Lines 3-18; the high output image data and low output image data is normalized prior to combination).

As to claim **27**, Ogata et al., as modified by Wada, teaches an image pickup apparatus according to claim 5, wherein the image-combining means image-combines the high output image data and the low output image data by a logarithmic addition method (see Ogata et al., Col. 15, Lines 3-18; the high output image data and low output image data is normalized prior to combination).

As to claim **28** Ogata et al., as modified by Wada, teaches an image combination method according to claim 1, wherein the total gain is multiplied on the combined data of the high output

image data and the low output image data in a range that the high output image data exceeds a certain value (*It is inherent that the image data will exceed some value.*).

As to claim **29**, Ogata et al., as modified by Wada, teaches an image pickup apparatus according to claim 5, wherein the total gain is multiplied on the combined data of the high output image data and the low output image data in a range that the high output image data exceeds a certain value (*It is inherent that the image data will exceed some value.*).

5. Claims 18-20 and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogata et al. (US # 7,202,892) in view of Wada (US # 5,446,504) and further in view of Tintera (US # 5,746,808).

As to claim **18**, Ogata et al., as modified by Wada, teaches an image combination method according to claim 1. The claim differs from Ogata et al. in that it further requires that the total gain depends on a scene classification selected from a group of predetermined scene classifications.

In the same field of endeavor, Tintera teaches a total gain (Figure 3A and 3B, gain step) that depends on a scene classification (Figure 3A and 3B, auto mode and sports mode) selected from a group of predetermined scene classification (Col. 5, Lines 54-58 and Col. 6, Lines 39-56). In light of the teaching of Tintera, it would have been obvious to one of ordinary skill in the art to combine the choosing of the total gain dependent upon a predetermined scene classification, as taught by Tintera, with the compression setting of Ogata et al., as modified by Wada, because an artisan of ordinary skill in the art would recognize that using different tables involving exposure time and gain settings for different scene classifications insures optimum image quality

for the different types of scenes while minimizing the size of memory needed to store the tables (see Tintera, Col. 3, Lines 24-28).

As to claim **19**, Ogata et al., as modified by Wada and Tintera, teaches an image combination method according to claim 18, wherein the scene classification is determined based on data detected by one or more sensors sensing the scene (see Tintera, Figure 4A, image sensor "10"; see arguments above).

As to claim **20**, Ogata et al., as modified by Wada and Tintera, teaches an image combination method according to claim 18, wherein the scene classification is determined based on a selection of a scene classification by a user (see Tintera, Col. 6, Lines 42-45).

As to claim **23**, Ogata et al., as modified by Wada and Tintera, teaches an image pickup apparatus according to claim 5, wherein the total gain depends on a scene classification selected from a group of predetermined scene classifications (see Tintera, Col. 5, Lines 54-58 and Col. 6, Lines 39-56).

As to claim **24**, Ogata et al., as modified by Wada and Tintera, teaches an image pickup apparatus according to claim 23, wherein the scene classification is determined based on data detected by one or more sensors sensing the scene (see Tintera, Figure 4A, image sensor "10"; see arguments above).

As to claim **25**, Ogata et al., as modified by Wada and Tintera, teaches an image combination method according to claim 23, wherein the scene classification is determined based on a selection of a scene classification by a user (see Tintera, Col. 6, Lines 42-45).

6. Claims 21 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogata et al. (US # 7,202,892) in view of Wada (US # 5,446,504) and further in view Konishi et al. (US # 5,420,635)

As to claim **21**, Ogata et al., as modified by Wada, teaches an image combination method according to claim 1. The claim differs from Ogata et al., as modified by Wada, in that it further requires that the step of image-combining the high output image data and the low output image data is performed by partially replacing a portion of one of the high output image data and the low output image data with a portion of the other of the high output image data and the low output image data.

In the same field of endeavor, Konishi et al. teaches a video camera which outputs two separate groups of image data; a first group being exposed a proper exposure amount and a second group being exposed at an exposure amount lower than the proper exposure amount. The image data from proper exposure corresponding to an underexposed portion of the image is replaced with image data of that portion from the lower exposure amount (Figure 3A, 3B; Figure 9; Col. 14, Lines 48-55). In light of the teaching of Konishi et al., it would have been obvious to one of ordinary skill in the art to include this ability in the system of Ogata et al., as modified by Wada, because an artisan of ordinary skill in the art would recognize that the image would appear neither white nor black even with respect to a subject in which the difference in luminance between two portions is very large, thereby to obtain a very excellent image is obtained (see Konishi et al., Col. 10, Lines 32-42).

As to claim **26**, Ogata et al., as modified by Wada, teaches an image combination method according to claim 5. The claim differs from Ogata et al., as modified by Wada, teaches the

image-combining means image-combines the high output image data and the low output image data by partially replacing a portion of one of the high output image data and the low output image data with a portion of the other of the high output image data and the low output image data.

In the same field of endeavor, Konishi et al. teaches a video camera which outputs two separate groups of image data; a first group being exposed a proper exposure amount and a second group being exposed at an exposure amount lower than the proper exposure amount. The image data from proper exposure corresponding to an underexposed portion of the image is replaced with image data of that portion from the lower exposure amount (Figure 3A, 3B; Figure 9; Col. 14, Lines 48-55). In light of the teaching of Konishi et al., it would have been obvious to one of ordinary skill in the art to include this ability in the system of Ogata et al., as modified by Wada, because an artisan of ordinary skill in the art would recognize that the image would appear neither white nor black even with respect to a subject in which the difference in luminance between two portions is very large, thereby to obtain a very excellent image is obtained (see Konishi et al., Col. 10, Lines 32-42).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANTHONY J. DANIELS whose telephone number is (571)272-7362. The examiner can normally be reached on 8:00 A.M. - 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AD
5/28/2008

/Lin Ye/

Supervisory Patent Examiner, Art Unit 2622